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EXAMINER	
LOGSDON, JOSEPH B	

ART UNIT	PAPER NUMBER
2662	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/721,326	BARRETT ET AL.
	Examiner	Art Unit
	Joe Logsdon	2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10,12-22,24,27-31,35 and 40-146* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10,12-22,24,27-31,35 and 40-146* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Withdrawal of Finality:

1. The finality of the last Office Action is withdrawn.

Objections:

2. The disclosure is objected to because of the following informalities:

i. Page 1, line 23 of the specification contains a hyperlink reference to a web site.

ii. According to page 1 of the specification, U.S. Patent Application Serial Number 08/932,190 is entitled "In Flight Video Apparatus and Method." The correct title is - -Low-Height, Low-Cost, High-Gain Antenna and System for Mobile Platforms- -.

Appropriate correction is required.

Claim Rejections—35 U.S.C. 102(b):

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 15-17, 19-22, 24, 29-31, 35, 68, and 98 are rejected under 35 U.S.C. 102(b) as being anticipated by Simon et al.

With regard to claims 1, 2, 15, 30, 68, 84, 86, and 98, Simon et al. discloses a system and method for providing information to at least one destination in an area where signal coverage is not available from an information source (abstract). The destination can be part of a passenger vehicle because the invention can enable information transmission between aircraft (column 2, lines 51-58). The invention inherently creates a communication network because the invention allows communication between source and destination to proceed in situations in which such communication would otherwise not be possible. The relay systems are carried on passenger vehicles ("aerodynes") (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a first movable receiver/transmitter unit within a signal coverage area of the information source, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to its destination because an information source ("emitting station") transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver because it is a "receiving station" (abstract). Relay systems are carried on passenger vehicles ("aerodynes") (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a movable receiver/transmitter unit within a signal coverage area of the information source, the information signal is inherently re-transmitted by a movable receiver/transmitter to its destination, and the information source inherently includes a transmitter because an information source ("emitting station") transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver

because it is a "receiving station" (abstract). Simon et al. teaches that the method could be extended to use radar, which is a directional antenna (column 5, lines 32-35). Simon et al. discloses a system and method for providing information to passenger vehicles along a signal pathway (i.e., the path traversed by the signal as it propagates from source, to passenger vehicle to passenger vehicle, to destination) (abstract). Relay systems are carried on passenger vehicles ("aerodynes") (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The destination can be part of a passenger vehicle because the invention can enable information transmission between aircraft (column 2, lines 51-58). The information carrying signal is inherently received by a first movable receiver/transmitter unit, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to another passenger vehicle because an information source ("emitting station") transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination, which can also be a passenger vehicle (abstract; column 2, lines 51-58). The destination inherently includes a receiver because it is a "receiving station" (abstract).

With regard to claim 16, the transceiver onboard each aerodyne in Simon et al. is inherently located in an area where there is an already existing communication channel because the transceiver communicates. According to the most general definition of channel, a channel is simply a path along which a signal can be sent. If no such channel existed in the area of the transceiver onboard an aerodyne, the aerodyne would therefore be unable to communicate.

With regard to claim 17, Simon et al. teaches that there can be more than one relay system-equipped aerodyne involved in the communication from source to destination (Fig. 1; column 2, lines 38-41; column 2, lines 59-64).

With regard to claim 19, Simon et al. teaches that the passenger vehicles are aircraft ("aerodynes") (abstract).

With regard to claims 20-22 and 24, Simon et al. teaches that the positions and directions of motion of the passenger vehicles can change in an almost random manner from one instant to another (column 2, lines 42-47). The passenger vehicles can therefore be located on the same pathway or a parallel pathway or an intersecting pathway, and can travel in the same or opposite directions or to or from the intersections of their pathways regardless of their relative locations or pathways.

With regard to claims 29, each aerodyne in Simon et al. is inherently both a pathway station and a pathway control station because each aerodyne monitors the passenger vehicles (other aerodynes) along a pathway because aerodynes can link up with each other momentarily to pass information in the form of data packets between each other when necessary (column 1, line 64 to column 5, line 5); each aerodyne is inherently coupled to itself; each aerodyne is inherently coupled to an existing packet-based data network because it forwards received data packets to other aerodynes or to the destination (column 1, lines 50-55; column 64 to column 2, line 5); and each aerodyne inherently controls communication between itself and the existing packet-based data network because each aerodyne is part of the existing packet-based data network (column 1, lines 50-55; column 64 to column 2, line 5).

With regard to claims 31 and 35, Simon et al. teaches that the positions and directions of motion of the passenger vehicles can change in an almost random manner from one instant to another (column 2, lines 42-47). The passenger vehicles can therefore be located on the same pathway or a parallel pathway or an intersecting pathway, and can travel in the same or opposite

directions or to or from the intersections of their pathways regardless of their relative locations or pathways.

Claim Rejections—35 U.S.C. 102(e):

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Wilson et al.

Wilson et al. teaches a method of providing information to at least one passenger vehicle (Subscriber Unit 202 in Fig. 2) located on a pathway in an area where signal coverage is not available from an information source (column 1, line 47 to column 2, line 8), to create an information network, wherein the method comprises the step of transmitting an information signal containing the information with a transmitter located at the information source (Fixed Infrastructure 101 in Fig. 2). The method further comprises the step of receiving the information with a first transmitter/receiver unit located on a passenger vehicle (mobile repeater) that is within a signal coverage area of the information source and that is located on the pathway (column 1, line 47 to column 2, line 8). The signal is then retransmitted with the first transmitter/receiver unit to a receiver located on the at least one passenger vehicle located on the pathway (column 1, line 47 to column 2, line 8). The signal is transmitted from the first transmitter/receiver unit to the receiver along the pathway (column 1, line 47 to column 2, line 8).

8. Claims 1, 2, 15, 30, and 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Larsen et al.

With regard to claims 1, 15, 30, and 68, Larsen et al. teaches a method of providing information to at least one passenger vehicle (a mobile station) located on a pathway in an area where signal coverage is not available from an information source (a mobile station), to create an information network, the method comprising steps of:

transmitting an information signal containing the information with a transmitter located at the information source (column 7, lines 21-34; Figs. 7a-7c; 6→5);

receiving the information signal with a first transmitter/receiver unit located on a passenger vehicle (a repeater located on a mobile station) that is within a signal coverage area of the information source and that is located on the pathway (column 7, lines 21-34; Figs. 7a-7c; 5→4); and

re-transmitting the information signal with the first transmitter/receiver unit (mobile repeater) to a receiver located on the at least one passenger vehicle (mobile user) located on the pathway (column 7, lines 21-34; Figs. 7a-7c; column 7, lines 56-58; the system could use any number of hops);

wherein the information signal is transmitted from the first transmitter/receiver unit to the receiver along the pathway (column 7, lines 21-34; column 7, lines 56-58; Figs. 7a-7c; all antennae are inherently directional antennae).

With regard to claim 2, Larsen et al. teaches a method of providing information from at least one passenger vehicle (a mobile station) located on a pathway and not within a signal coverage area of a destination (base station), the method comprising steps of:

transmitting an information signal containing the information with a transmitter (a mouth) located on the at least one passenger vehicle on the pathway (column 7, lines 21-34; Figs. 7a-7c; 6→5);

receiving the information signal with a first transmitter/receiver unit located on a passenger vehicle (mobile phone), located on the pathway, that is within the signal coverage area of the destination (column 7, lines 21-34; Figs. 7a-7c; 5→4);

and re-transmitting the information signal with the first transmitter/receiver unit to a receiver located at the destination (base station) (column 7, lines 21-34; Figs. 7a-7c; 4→a);

wherein the information signal is transmitted from the transmitter to the first transmitter/receiver unit along the pathway (column 7, lines 21-34; Figs. 7a-7c).

Claim Rejections—35 U.S.C. 103(a):

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-8, 10-12, 13, 14-22, 24, 29-31, 40-47, 50, 52, 57, 58, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steele.

With regard to claims 1-8, 10, 12, 13, 15-17, 29-31, 35, 40-45, 50, 57, and 58, Steele discloses a method and system for allowing a mobile station (hidden mobile station (HMS)) and a fixed site base station (information source), which are out of range of direct communication, to communicate by using other mobile stations (DMS) as repeaters. The location of each mobile station is estimated. This process can involve several mobile stations, any number of which may be hidden. A pathway station (SC) monitors the mobile stations. (See page 18, line 9 to page 21, line 19; Fig. 5; Fig. 6; Fig. 7.) The antennas used in Steele are inherently directional antennas because all antennas, whether unidirectional, omni-directional, or multidirectional, are directional. Steele fails to teach that the mobile stations are on passenger vehicles. Steele, however, teaches that al of the mobile stations can have various velocities (so they can travel in any direction at any speed) and accelerations and can be fixed (Fig. 7). It would have been obvious to one of ordinary skill in the art to modify the invention of Steele so that the mobile stations are on passenger vehicles because such an arrangement would enable the users of the mobile stations to perform tasks other than communication, such as traveling from one point to another.

With regard to claim 14, Steele fails to teach a supplemental communication system being provided when an HMS cannot communicate with the fixed base station. It would have

been obvious to one of ordinary skill in the art to modify the invention of Steele so that a supplemental communication system is provided when the HMS cannot communicate with the fixed base station because such an arrangement would enable the HMS to communicate with the fixed base station.

With regard to claims 18 and 19, Steele fails to teach that the mobile stations are mounted on either ground vehicles or aircraft. It would have been obvious to one of ordinary skill in the art to modify the invention of Steele so that the mobile stations are mounted on either ground vehicles or aircraft because such an arrangement would enable the invention to be used for either ground vehicles or aircraft.

With regard to claims 20-22, 24, 31, and 35, Steele teaches that the mobile stations are traveling either in the same direction or in opposite directions or that they are either on parallel or intersecting pathways (Fig. 7).

With regard to claim 46, Steele fails to teach that the heading of the second passenger vehicle is altered in response to the information it receives. It would have been obvious to one of ordinary skill in the art to modify the invention of Steele so that the heading of the second passenger vehicle is altered in response to the information it receives because such an arrangement would enable hidden mobile stations to navigate their way until they are no longer hidden.

With regard to claims 47, 52, and 60, Steele fails to teach that the information is digitally encoded. It would have been obvious to one of ordinary skill in the art to modify the teaching of Steele so that the information is digitally encoded because digital encoding offers several benefits such as noise immunity.

12. Claims 18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. in view of Rootsey et al.

With regard to claim 18, Simon et al. fails to teach that the passenger vehicles can be ground vehicles. Rootsey et al. teaches that the passenger vehicles can be trains (abstract). Trains are ground vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the passenger vehicles are ground vehicles, as in Rootsey et al. because such an arrangement would allow the passenger vehicles to be easily accessed for maintenance.

With regard to claim 28, Simon et al. fails to teach that a supplemental network communicates directly with a passenger vehicle that is located in an area where there are insufficient passenger vehicles available to provide a signal to the passenger vehicle. Rootsey et al. teaches that where supplemental networks exist, i.e., in populated areas with licensed terrestrial broadcasters, the repeater onboard the passenger vehicle ("vehicle") is shut down (abstract). Because it is shut down, the passenger vehicle is "unavailable" in the sense that it does not provide its service to passenger vehicles located in areas with supplemental networks. This suggests the converse, i.e., this suggests an arrangement in which supplemental networks provide the same service when movable repeaters are unavailable. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that a supplemental network communicates directly with a passenger vehicle that is located in an area where there are insufficient passenger vehicles available to provide a signal to the passenger vehicle, as

suggested by Rootsey et al., because such an arrangement would ensure that a communication path always exists.

13. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. in view of Drummer.

With regard to claim 27, Simon et al. fails to teach that at least one of the passenger vehicles is not located on a pathway. Drummer teaches satellites, which are inherently not located along the pathway of a missile; this must be so, for otherwise the missile would destroy the satellite (Fig. 1). It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that at least one of the passenger vehicles is not located on a pathway, as in Drummer, because such an arrangement would help ensure that collisions between passenger vehicles do not occur.

14. Claims 3-8, 10, 12-14, 40-67, 69-89, 90-97, and 99-146 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al.

With regard to claims 90 and 92, Simon et al. discloses a system and method for providing information to at least one destination in an area where signal coverage is not available from an information source (abstract). The destination can be part of a passenger vehicle because the invention can enable information transmission between aircraft (column 2, lines 51-58). The invention inherently creates a communication network because the invention allows communication between source and destination to proceed in situations in which such communication would otherwise not be possible. The relay systems are carried on passenger

vehicles ("aerodynes") (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a first movable receiver/transmitter unit within a signal coverage area of the information source, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to its destination because an information source ("emitting station") transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver because it is a "receiving station" (abstract). Relay systems are carried on passenger vehicles ("aerodynes") (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a movable receiver/transmitter unit within a signal coverage area of the information source, the information signal is inherently re-transmitted by a movable receiver/transmitter to its destination, and the information source inherently includes a transmitter because an information source ("emitting station") transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver because it is a "receiving station" (abstract). The information is inherently accessible to passengers on each passenger vehicle because each passenger vehicle comprises a transceiver. Simon et al. teaches that the method could be extended to use radar, which is a directional antenna (column 5, lines 32-35). Simon et al. discloses a system and method for providing information to passenger vehicles along a signal pathway (i.e., the path traversed by the signal as it propagates from source, to passenger vehicle to passenger vehicle, to destination) (abstract). Relay systems are carried on passenger vehicles ("aerodynes") (abstract). Each passenger vehicle

(aerodyne) comprises a transceiver (column 2, lines 48-50). The destination can be part of a passenger vehicle because the invention can enable information transmission between aircraft (column 2, lines 51-58). The information carrying signal is inherently received by a first movable receiver/transmitter unit, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to another passenger vehicle because an information source ("emitting station") transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination, which can also be a passenger vehicle (abstract; column 2, lines 51-58). The destination inherently includes a receiver because it is a "receiving station" (abstract). All antennae are inherently directional antennae. Simon et al. fails to teach that the information is provided for access by a passenger associated with the second passenger vehicle. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the information is provided for access by a passenger associated with the second passenger vehicle because a passenger in the second passenger vehicle may desire to have access to the information.

With regard to claim 3, Simon et al. fails to teach repeating the steps of receiving and re-transmitting the information signal along the pathway with an additional transceiver. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the steps of receiving and re-transmitting the information signal along the pathway with an additional transceiver are repeated because such an arrangement would enable the signal to traverse a greater distance.

With regard to claim 4, Simon et al. fails to teach that the additional transceiver is located on a fixed platform. It would have been obvious to one of ordinary skill in the art to modify the

invention of Simon et al. so that the additional transceiver is located on a fixed platform because such an arrangement would enable the invention to work when some of the platforms are fixed.

With regard to claim 5, Simon et al. fails to teach that the additional transceiver is located on another passenger vehicle located on the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the additional transceiver is located on another passenger vehicle located on the pathway because such an arrangement would enable the signal to traverse a greater distance along the pathway.

With regard to claim 6, Simon et al. fails to teach that at least two of the passenger vehicles are located on the pathway and are traveling in the same direction. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that at least two of the passenger vehicles are located on the pathway and are traveling in the same direction because such an arrangement would enable the signal to traverse a longer distance along the pathway.

With regard to claim 7, Simon et al. fails to teach that at least two of the passenger vehicles are located on the pathway and are traveling in opposite directions. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that at least two of the passenger vehicles are located on the pathway and are traveling in opposite directions because such an arrangement would enable the invention to function when the vehicles are traveling in opposite directions.

With regard to claim 8, Simon et al. fails to teach that the additional transceiver is located on another passenger vehicle that is located on a parallel pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the additional

transceiver is located on another passenger vehicle that is located on a parallel pathway because such an arrangement would enable the invention to work when the vehicles are on different, but parallel, pathways.

With regard to claim 10, Simon et al. fails to teach that the additional transceiver is located on another passenger vehicle located on a second pathway that intersects the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the additional transceiver is located on another passenger vehicle located on a second pathway that intersects the pathway because such an arrangement would enable the invention to work when the vehicles are on different, but intersecting, pathways.

With regard to claim 12, Simon et al. fails to teach that the additional transceiver is located on another passenger vehicle that is not located on a pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the additional transceiver is located on another passenger vehicle that is not located on a pathway because such an arrangement would enable the invention to work for passenger vehicles not located on a pathway.

With regard to claims 13 and 94, Simon et al. fails to teach the step of monitoring the passenger vehicles and information signals along the pathway with a pathway station. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of monitoring the passenger vehicles and information signals along the pathway with a pathway station because such an arrangement would enable the system to provide centralized control over the passenger vehicles.

With regard to claim 14, Simon et al. fails to teach the step of providing the information signal to the at least on passenger vehicle located in an area where there is an insufficient number of available passenger vehicles to provide the information signal, with a supplemental communication system. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that in includes the step of providing the information signal to the at least on passenger vehicle located, in an area where there is an insufficient number of available passenger vehicles to provide the information signal, with a supplemental communication system because such an arrangement would enable the system to provide information signals to passenger vehicles that are otherwise unreachable.

With regard to claim 72, Simon et al. teaches that the passenger vehicles are aircraft (aerodynes; abstract).

With regard to claim 70, Simon et al. fails to teach that at least two of the passenger vehicles are located on parallel pathways. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that at least two of the passenger vehicles are located on parallel pathways because such an arrangement would extend the communication capability so that passenger vehicles that are traveling on different pathways can communicate.

With regard to claim 71, Simon et al. fails to teach that the another passenger vehicle is located on a second pathway that intersects the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the another passenger vehicle is located on a second pathway that intersects the pathway because such an arrangement would extend the communication capability so that passenger vehicles that are traveling on different pathways can communicate.

With regard to claim 40, Simon et al. fails to teach the step of re-transmitting the information signal along the first predetermined pathway to the third passenger vehicle that is located on the first predetermined pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of re-transmitting the information signal along the first predetermined pathway to the third passenger vehicle that is located on the first predetermined pathway because such an arrangement would enable the information signal to be sent along a pathway.

With regard to claim 41, Simon et al. fails to teach the step of re-transmitting the information signal along the first predetermined pathway using a directional antenna coupled to the first transceiver. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of re-transmitting the information signal along the first predetermined pathway using a directional antenna coupled to the first transceiver because such an arrangement would enable the transmission path of the information signal to be determined.

With regard to claims 48, 56, 61, 87, 97, and 103, Simon et al. fails to teach that the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, wherein the step of re-transmitting the information signal does not include the step of re-transmitting the first portion of information. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, wherein the step of re-transmitting the information signal does not

include the step of re-transmitting the first portion of information because such an arrangement would enable the passenger vehicles to merely act as routers; each portion of information could comprise the address of its respective passenger vehicle.

With regard to claim 49, Simon et al. fails to teach a step of providing the information in the information signal for access by a passenger associated with the at least one passenger vehicle. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes a step of providing the information in the information signal for access by a passenger associated with the at least one passenger vehicle because such an arrangement would enable passengers to benefit from the invention.

With regard to claims 51, 62, 93, and 111, Simon et al. fails to teach the step of re-transmitting the information signal with a multibeam antenna in a plurality of directions, at least one of the directions being along the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of re-transmitting the information signal with a multibeam antenna in a plurality of directions, at least one of the directions being along the pathway because such an arrangement would enable conference calls by allowing the information signal to travel in multiple directions at once.

With regard to claims 53, 66, and 96, Simon et al. fails to teach the step of altering a heading of the at least one passenger vehicle in response to information received by the receiver. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of altering a heading of the at least one passenger vehicle in response to information received by the receiver because such an arrangement would allow the passenger vehicles to benefit from the invention.

With regard to claims 54, 55, 59, and 85, Simon et al. fails to teach the step of providing the information for access by a first or second passenger. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of the step of providing the information for access by a first or second passenger because such an arrangement would enable passengers to benefit from the invention.

With regard to claims 63-65, 76-78, and 118-120, Simon et al. fails to teach that the information includes weather information, or traffic information, or information concerning the location or heading of the passenger vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the information includes weather information, or traffic information, or information concerning the location or heading of the passenger vehicles because such an arrangement would enable users of the invention to benefit from such useful information.

With regard to claims 67 and 79-81, Simon et al. fails to teach an additional pathway station that assumes control of some of the passenger vehicles to prevent overloading of the pathway station. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes an additional pathway station that assumes control of some of the passenger vehicles to prevent overloading of the pathway station because such an arrangement would allow the system to avoid overloading the pathway station.

With regard to claim 69, Simon et al. fails to teach that the first and second predetermined pathways are the same. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first and second predetermined pathways

are the same because such an arrangement would enable the invention to function when the pathways are the same.

With regard to claims 73 and 74, Simon et al. fails to teach that one pathway is disposed above the other. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that one pathway is disposed above the other because such an arrangement would enable the invention to function for the case in which one pathway is disposed above the other.

With regard to claims 75 and 117, Simon et al. fails to teach that the passenger vehicles are ground vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al so that the passenger vehicles are ground vehicles because such an arrangement would enable ground vehicle to benefit from the invention.

With regard to claim 82, Simon et al. fails to teach that the passenger vehicles are marine vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the passenger vehicles are marine vehicles because such an arrangement would enable marine vehicles to benefit from the invention.

With regard to claim 83, Simon et al. fails to teach that the third passenger vehicle is located on the first predetermined pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the third passenger vehicle is located on the first predetermined pathway because such an arrangement would extend the range of vehicles traversing that first pathway.

With regard to claims 88 and 115, Simon et al. fails to teach that one passenger vehicle is an aircraft, and another is a ground vehicle. It would have been obvious to one of ordinary skill

in the art to modify the invention of Simon et al. so that one passenger vehicle is an aircraft, and another is a ground vehicle such an arrangement would enable the invention to benefit both aircraft and ground vehicles.

With regard to claim 89, Simon et al. fails to teach that the first transceiver unit includes an omni-directional antenna that re-transmits the information signal to the receiver. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first transceiver unit includes an omni-directional antenna that re-transmits the information signal to the receiver because such an arrangement would allow the signal to be re-transmitted to any angle.

With regard to claim 91, Simon et al. fails to teach re-transmitting the information signal along a first pathway, wherein the first passenger vehicle is located on the first pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of re-transmitting the information signal along a first pathway, wherein the first passenger vehicle is located on the first pathway because such an arrangement would allow the invention to work when the first passenger vehicle is located on the first pathway.

With regard to claim 95, Simon et al. fails to teach that the at least one additional transceiver is located on at least one corresponding passenger vehicle. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the at least one additional transceiver is located on at least one corresponding passenger vehicle because such an arrangement would enable the invention to work using multiple passenger vehicles.

With regard to claim 99, Simon et al. fails to teach that the additional transceiver is located on a fixed platform. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the additional transceiver is located on a fixed platform because such an arrangement would enable the system to function using already established fixed base stations.

With regard to claim 100, Simon et al. fails to teach that the at least one additional transceiver is located on a third passenger vehicle. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the at least one additional transceiver is located on a third passenger vehicle because such an arrangement would enable the system to work using multiple passenger vehicles.

With regard to claim 101, Simon et al. fails to teach that the first and second passenger vehicles are located on a first pathway and are traveling in the same direction. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first and second passenger vehicles are located on a first pathway and are traveling in the same direction because such an arrangement would enable the system to function when the passenger vehicles are traversing the same path.

With regard to claim 102, Simon et al. fails to teach that the information signal is digital. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the information signal is digital because such an arrangement would enable the invention to take advantage of the benefits of digital signals, such as improved noise immunity.

With regard to claim 104, Simon et al. fails to teach that the first and second passenger vehicles are located on a first pathway and are traveling in opposite directions. It would have

been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first and second passenger vehicles are located on a first pathway and are traveling in opposite directions because such an arrangement would enable the invention to serve passenger vehicles that are on the same pathway and traveling in opposite directions; such an arrangement would be particularly advantageous because it would help to prevent collisions.

With regard to claim 105, Simon et al. fails to teach that the first and second passenger vehicles are located on corresponding first and second predetermined pathways that intersect. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first and second passenger vehicles are located on corresponding first and second predetermined pathways that intersect because such an arrangement would enable the invention to serve passenger vehicles that are on different, but intersecting, pathways; such an arrangement would be particularly advantageous because it would help to prevent collisions.

With regard to claim 106, Simon et al. fails to teach that at least one of the passenger vehicles is not located on a pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that at least one of the passenger vehicles is not located on a pathway because such an arrangement would enable the invention to serve passenger vehicles that are not located on a pathway.

With regard to claims 107 and 108, Simon et al. fails to teach that some of the passenger vehicles are located on a pathway and that the signal is transmitted along the pathway between the passenger vehicles, and that the invention comprises a pathway station that monitors the passenger vehicles and signals transmitted along the pathway and that the invention comprises an additional pathway station for controlling some of the passenger vehicles to prevent overloading

the system. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that some of the passenger vehicles are located on a pathway and so that the signal is transmitted along the pathway between the passenger vehicles, and so that the invention comprises a pathway station that monitors the passenger vehicles and signals transmitted along the pathway and so that the invention comprises an additional pathway station for controlling some of the passenger vehicles to prevent overloading the system because such an arrangement would allow the invention to use centralized control.

With regard to claim 109, Simon et al. fails to teach a supplemental communication system to be used when there are an insufficient number of passenger vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes a supplemental communication system to be used when there are an insufficient number of passenger vehicles because such an arrangement would make the system reliable.

With regard to claim 110, Simon et al. fails to teach that the first and third passenger vehicles are located on a pathway, and that the first transceiver includes a directional antenna that re-transmits the signal along the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first and third passenger vehicles are located on a pathway, and so that the first transceiver includes a directional antenna that re-transmits the signal along the pathway because such an arrangement would enable the signal to traverse the pathway.

With regard to claim 112, Simon et al. fails to teach that the third passenger vehicle is located on a pathway. It would have been obvious to one of ordinary skill in the art to modify the

invention of Simon et al. so that the third passenger vehicle is located on a pathway because such an arrangement would allow the signal to traverse the pathway.

With regard to claim 113, Simon et al. teaches that the passenger vehicles are aircraft (aerodynes; abstract).

With regard to claim 114, Simon et al. fails to teach that the aircraft are located on pathways disposed above and below one another. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the aircraft are located on pathways disposed above and below one another because such an arrangement would allow the invention to function as intended for passenger vehicles that do not happen to be traversing the same pathway.

With regard to claim 116, Simon et al. fails to teach that the at least one additional transceiver includes an omni-directional antenna that transmits the signal to the receiver. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the at least one additional transceiver includes an omni-directional antenna that transmits the signal to the receiver because an omni-direction antenna would enable the invention to reliably function as intended when all the passenger vehicles are traveling along different pathways.

With regard to claim 121, Simon et al. fails to teach a step of storing data when the at least one passenger vehicle becomes disconnected from the information network so that the information can be provided when the at least one passenger vehicle is reconnected to the information network. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of storing data when the at least one

passenger vehicle becomes disconnected from the information network so that the information can be provided when the at least one passenger vehicle is reconnected to the information network because such an arrangement would help prevent the loss of information that might otherwise occur from the disconnection.

With regard to claim 122, Simon et al. fails to teach transmitting the information signal at a first frequency, and wherein re-transmitting the information signal includes re-transmitting the information signal at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of transmitting the information signal at a first frequency, and wherein re-transmitting the information signal includes re-transmitting the information signal at a second frequency because such an arrangement would allow the system to use frequency division multiplexing.

With regard to claim 123, Simon et al. fails to teach monitoring a position and a velocity of the passenger vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes monitoring a position and a velocity of the passenger vehicles because such an arrangement would allow for centralized control of the system.

With regard to claim 124, Simon et al. fails to teach transmitting information to the passenger vehicles from the pathway station; and transmitting information from the passenger vehicles to the pathway station. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes transmitting information to the passenger vehicles from the pathway station; and transmitting information from the passenger vehicles to the pathway station because such an arrangement would allow for centralized control.

With regard to claim 125, Simon et al. fails to teach that the pathway station is adapted to monitor a position and velocity of the passenger vehicles along the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway station is adapted to monitor a position and velocity of the passenger vehicles along the pathway because such an arrangement would allow for centralized control.

With regard to claim 126, Simon et al. fails to teach that the pathway station is adapted to send signals to the passenger vehicles and to receive signals from the passenger vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway station is adapted to send signals to the passenger vehicles and to receive signals from the passenger vehicles because such an arrangement would allow for centralized control.

With regard to claim 127, Simon et al. fails to teach that the pathway control station, the pathway station and the passenger vehicles form an information network, and wherein the pathway control station includes a storage medium to store data relating to one of the passenger vehicles when the one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway control station, the pathway station and the passenger vehicles form an information network, and wherein the pathway control station includes a storage medium to store data relating to one of the passenger vehicles when the one passenger vehicle becomes disconnected from the information network so that the information

can be provided when the one passenger vehicle is reconnected to the information network because such an arrangement would allow for centralized control.

With regard to claim 128, Simon et al. fails to teach that the first transmitter/receiver unit is adapted to re-transmit the information signal at a first frequency, and wherein the additional transmitter/receiver unit is adapted to re-transmit the information signal at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first transmitter/receiver unit is adapted to re-transmit the information signal at a first frequency, and wherein the additional transmitter/receiver unit is adapted to re-transmit the information signal at a second frequency because such an arrangement would allow frequency division multiplexing to be used.

With regard to claim 129, Simon et al. fails to teach that the passenger vehicles form an information network, and further comprising a step of storing data when one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the passenger vehicles form an information network, and further comprising a step of storing data when one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network because such an arrangement would help prevent loss of information when such disconnection occurs.

With regard to claim 130, Simon et al. fails to teach transmitting the information signal at a first frequency, and wherein re-transmitting the information signal includes re-transmitting the

information signal at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes transmitting the information signal at a first frequency, and wherein re-transmitting the information signal includes re-transmitting the information signal at a second frequency because such an arrangement would allow frequency division multiplexing to be used.

With regard to claim 131, Simon et al. fails to teach monitoring a position and velocity of the passenger vehicles along the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes monitoring a position and velocity of the passenger vehicles along the pathway because such an arrangement would allow for centralized control.

With regard to claim 132, Simon et al. fails to teach transmitting information to the passenger vehicles from the pathway station; and transmitting information from the passenger vehicles to the pathway station. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes transmitting information to the passenger vehicles from the pathway station; and transmitting information from the passenger vehicles to the pathway station because such an arrangement would allow for centralized control.

With regard to claim 133, Simon et al. fails to teach re-transmitting the information signal in a first direction at a first frequency and re-transmitting the information signal in a second direction at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes re-transmitting the information signal in a first direction at a first frequency and re-transmitting the information signal in a second direction

at a second frequency because such an arrangement would allow for the use of combined spatial and frequency diversity.

With regard to claim 134, Simon et al. fails to teach that the multibeam antenna is adapted to transmit the information signal in a first direction at a first frequency and to transmit the information signal in a second direction at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the multibeam antenna is adapted to transmit the information signal in a first direction at a first frequency and to transmit the information signal in a second direction at a second frequency because such an arrangement would allow for the use of combined spatial and frequency diversity.

With regard to claim 135, Simon et al. fails to teach that the pathway station is adapted to monitor a position and velocity of the passenger vehicles along the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway station is adapted to monitor a position and velocity of the passenger vehicles along the pathway because such an arrangement would allow for centralized control.

With regard to claim 136, Simon et al. fails to teach that the pathway station is adapted to send signals to the passenger vehicles and to receive signals from the passenger vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway station is adapted to send signals to the passenger vehicles and to receive signals from the passenger vehicles because such an arrangement would allow for centralized control.

With regard to claim 137, Simon et al. fails to teach that the pathway control station, the pathway station and the passenger vehicles form an information network, and wherein the

pathway control station includes a storage medium that stores data when one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway control station, the pathway station and the passenger vehicles form an information network, and wherein the pathway control station includes a storage medium that stores data when one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network because such an arrangement would provide centralized control and fault tolerance.

With regard to claim 138, Simon et al. fails to teach that the passenger vehicles form an information network, and that the method further comprises a step of storing data when one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the passenger vehicles form an information network, and that the method further comprises a step of storing data when one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network because such an arrangement would provide fault tolerance, i.e., no information would be lost when such a disconnection occurs.

With regard to claim 139, Simon et al. fails to teach transmitting the information signal at a first frequency, and that re-transmitting the information signal includes re-transmitting the information signal at a second frequency. It would have been obvious to one of ordinary skill in

the art to modify the invention of Simon et al. so that it includes transmitting the information signal at a first frequency, and re-transmitting the information signal at a second frequency because such an arrangement would allow frequency division multiplexing to be used.

With regard to claim 140, Simon et al. fails to teach that the step of re-transmitting the information signal in a plurality of directions includes re-transmitting the information signal in a first direction at a first frequency and re-transmitting the information signal in a second direction at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the step of re-transmitting the information signal in a plurality of directions, which includes re-transmitting the information signal in a first direction at a first frequency and re-transmitting the information signal in a second direction at a second frequency because such an arrangement would allow for the use of a combination of spatial and frequency diversity.

With regard to claim 141, Simon et al. fails to teach that the step of monitoring the passenger vehicles includes monitoring a position and velocity of the passenger vehicles along the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the step of monitoring the passenger vehicles includes monitoring a position and velocity of the passenger vehicles along the pathway because such an arrangement would allow for centralized control.

With regard to claim 142, Simon et al. fails to teach the steps of transmitting information to the passenger vehicles from the pathway station; and transmitting information from the passenger vehicles to the pathway station. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it includes the steps of transmitting

information to the passenger vehicles from the pathway station; and transmitting information from the passenger vehicles to the pathway station because such an arrangement would allow for centralized control of the system.

With regard to claim 143, Simon et al. fails to teach that the first transmitter/receiver unit is adapted to re-transmit the information signal at a first frequency, and that the at least one additional transmitter/receiver unit is adapted to re-transmit the information signal at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the first transmitter/receiver unit is adapted to re-transmit the information signal at a first frequency, and that the at least one additional transmitter/receiver unit is adapted to re-transmit the information signal at a second frequency because such an arrangement would allow for frequency division multiplexing to be used.

With regard to claim 144, Simon et al. fails to teach that the pathway station is adapted to monitor a position and a velocity of the passenger vehicles along the pathway. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway station is adapted to monitor a position and a velocity of the passenger vehicles along the pathway because such an arrangement would allow for centralized control of the system.

With regard to claim 145, Simon et al. fails to teach that the pathway station is adapted to transmit signals to the passenger vehicles and to receive signals from the passenger vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the pathway station is adapted to transmit signals to the passenger vehicles and to receive signals from the passenger vehicles because such an arrangement would allow for centralized control of the system.

With regard to claim 146, Simon et al. fails to teach that the multibeam antenna transmits the information signal in a first direction at a first frequency and transmits the information signal in a second direction at a second frequency. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the multibeam antenna transmits the information signal in a first direction at a first frequency and transmits the information signal in a second direction at a second frequency because such an arrangement would allow for the use of combined frequency and spatial diversity.

Claim Rejections—35 U.S.C. 102(e):

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

16. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

17. Claims 1-8, 10, 12-14, 15-22, 24, 27-31, 35, and 40-146 are rejected under 35 U.S.C. 102(e) as being anticipated by Robert et al.

With regard to claim 1, Robert et al. teaches a method of providing information to at least one passenger vehicle located on a pathway in an area where signal coverage is not available from an information source, to create an information network, the method comprising the steps of transmitting an information signal containing the information with a transmitter located at the information source; receiving the information signal with a first transmitter/receiver unit located on a passenger vehicle that is within a signal coverage area of the information source and that is located on the pathway; and re-transmitting the information signal with the first transmitter/receiver unit to a receiver located on the at least one passenger vehicle located on the pathway; wherein the information signal is transmitted from the first transmitter/receiver unit to the receiver along the pathway. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claim 2, Robert et al teaches a method of providing information from at least one passenger vehicle located on a pathway and not within a signal coverage area of a destination, the method comprising steps of transmitting an information signal containing the information with a transmitter located on the at least one passenger vehicle on the pathway; receiving the information signal with a first transmitter/receiver unit located on a passenger vehicle, located on the pathway, that is within the signal coverage area of the destination; and

re-transmitting the information signal with the first transmitter/receiver unit to a receiver located at the destination; wherein the information signal is transmitted from the transmitter to the first transmitter/receiver unit along the pathway. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claim 3, Robert et al. teaches repeating the steps of receiving and re-transmitting the information signal along the pathway with an additional transmitter/receiver unit to provide the information signal between the first transmitter/receiver unit and the at least one passenger vehicle. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claim 15, Robert et al. teaches a system that provides information to and from a second passenger vehicle which is in an area where signal coverage is otherwise not available from an information source, comprising a transmitter unit, located at the information source, that transmits the information signal; a first transmitter/receiver unit located on a first passenger vehicle that is located on a pathway within a signal coverage area of the information source, that receives the information signal and that re-transmits the information signal; a directional antenna, coupled to the transmitter/receiver unit that re-transmits the information signal along the pathway; and a receiver, located on the second passenger vehicle that is located on the pathway, the receiver adapted to receive the information signal. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claim 30, A method of providing information to passenger vehicles, comprising steps of: transmitting an information signal containing the information from an information source to a first transmitter/receiver unit located on a first passenger vehicle located on a first predetermined pathway; receiving the information signal with the first

transmitter/receiver unit; re-transmitting the information signal with the first transmitter/receiver unit; repeating the steps of receiving and re-transmitting the information signal with another transmitter/receiver unit located on a third passenger vehicle; and receiving the information signal with a receiver that is located on a second passenger vehicle located on a second predetermined pathway. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claim 68, Robert et al. teaches a system that provides information to and from passenger vehicles, the system comprising a transmitter, located at an information source, that transmits an information signal including the information; a first transmitter/receiver unit located on a first passenger vehicle located on a first predetermined pathway, the first transmitter/receiver unit being adapted to receive and retransmit the information signal; a second transmitter/receiver unit located on a second passenger vehicle, the second transmitter/receiver unit being adapted to receive and re-transmit the information signal; and a receiver that receives the information signal re-transmitted by the second transmitter/receiver unit, the receiver being located on a third passenger vehicle that is located on a second predetermined pathway. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claim 90, Robert et al. teaches a method for providing information from a source to a second passenger vehicle the method comprising steps of transmitting an information signal that includes the information from the source; receiving the information signal with a first transmitter/receiver unit located on a first passenger vehicle; providing the information for access by a passenger associated with the first passenger vehicle; re-transmitting the information signal with the first transmitter/receiver unit; repeating the steps of receiving the information signal and re-transmitting the information signal with at least one additional transmitter/receiver unit to

provide the information signal between the first transmitter/receiver unit and a receiver located on the second passenger vehicle; receiving the information signal with the receiver; and providing the information for access by a passenger associated with the second passenger vehicle. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claim 98, Robert et al teaches a communication system for providing information from a source to a second passenger vehicle, the communication system comprising an information source that transmits an information signal that includes the information; a first transmitter/receiver unit located on a first passenger vehicle, the first transmitter/receiver unit adapted to receive the information signal transmitted by the information source and to re-transmit the information signal; a first passenger interface adapted to present the information for access by a passenger associated with the first passenger vehicle; a receiver located on the second passenger vehicle, the receiver being adapted to receive the information signal; a second passenger interface adapted to present the information for access by a passenger associated with the second passenger vehicle; and at least one additional transmitter/receiver unit adapted to provide the information signal between the first transmitter/receiver unit and the receiver. (See abstract and column 4, line 34 to column 5, line 13.)

With regard to claims 4-8, 10, 12-14, 16-22, 24, 27-31, 35, 40-67, 69-89, 91-97, and 99-146, Robert et al. teaches all the limitations of these claims.

Response to Arguments:

18. Applicant argues that the plain meaning of "pathway" is "a predetermined, existing way." Applicant also argues that the specification defines the term "pathway" through examples. But the plain meaning should only be used when the specification provides no specific definition for a term. Examiner agrees that the specification does not adequately narrow the scope of "pathway." It is therefore necessary to consider the plain meaning of "pathway." But, accepting the definition provided by Applicant, i.e., "a predetermined, existing way," the plain meaning is just as nebulous as the term "pathway."

Applicant argues that small aircraft and boats do not necessarily travel on pathways; instead, Applicant argues that they travel randomly, according to the pilot's whim. But a pathway can be considered, according to its plain meaning, a purely mental construct. In particular, a pathway could be a preexisting path along which a passenger vehicle *could* travel—whether the vehicle is constrained to follow the laws of physics or any other laws. Therefore, if a vehicle is located somewhere, it must have traveled, via a pathway, to get to its current location. It must therefore be on a pathway. In particular, whether the movement of the passenger vehicle was random is irrelevant.

Applicant argues that Simon does not inherently use directional antennas. But omni-directional and multi-directional antennas are directional antennas.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Logsdon whose telephone number is (703) 305-2419. The examiner can normally be reached on Monday through Friday from 1:00 pm to 9:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached at (703) 305-4744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

20. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314

For informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Joe Logsdon

Patent Examiner

Monday, June 30, 2003

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600